

ABSTRACT

B¹
This invention relates generally to a single-wall carbon nanotube (SWNT) purification process and more particularly to a purification process that comprises heating the SWNT-containing felt under oxidizing conditions to remove the amorphous carbon deposits and other contaminating materials. In a preferred mode of this purification procedure, the felt is heated in an aqueous solution of an inorganic oxidant, such as nitric acid, a mixture of hydrogen peroxide and sulfuric acid, or a potassium permanganate. Preferably, SWNT-containing felts are refluxed in an aqueous solution of an oxidizing acid at a concentration high enough to etch away amorphous carbon deposits within a practical time frame, but not so high that the single-wall carbon nanotube material will be etched to a significant degree. When material having a high proportion of SWNT is purified, the preparation produced will be enriched in single-wall nanotubes, so that the SWNT are substantially free of other material.